

Notice of Allowability

Application No.

09/986,236

Examiner

Thai D. Hoang

Applicant(s)

KIM, MIN-KOO

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 02/02/2006 and proposal amendment 03/07/2006.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 02/02/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

**HANH NGUYEN
PRIMARY EXAMINER**

H. Nguyen

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Edward J Smith on March 22, 2006 and proposed Amendment sent to Examiner on 03/27/2006 via Fax.

The application has been amended as follows:

Claim 1: line 6, the statement -- , using quasi-complementary turbo codes, -- has been inserted after the word "sub-codes" and before the word "each"; and

line 9, the statement -- , using quasi-complementary turbo codes, -- has been inserted after the word " C_{s-1} " and before the word "and then".

Claim 5: line 10, the statement -- , using quasi-complementary turbo codes, -- has been inserted after the word " C_{s-1} " and before the word "each time"; and

line 12, the statement -- , using quasi-complementary turbo codes, -- has been inserted after the word " C_{s-1} " and before the word "each time".

Claim 9: (currently Amended) A method of transmitting S sub-codes C_i ($i = 0, 1, 2, \dots, S-1$) to a receiver in physical layer packets (PLPs), each having one or more transmission frames, in response to an initial transmission request and retransmission requests in a transmitter having a sub-code generator for generating the sub-codes C_i

from a PLP information stream using quasi- complementary turbo codes in a CDMA (Code Division Multiple Access) mobile communication system, the method comprising the steps of:

- (a) setting a count value i to an initial value for initial transmission;
- (b) transmitting an i th sub-code to the receiver in a transmission frame;
- (c) determining whether the i th sub-code has been transmitted in all transmission frames of a PLP upon receipt of a retransmission request for the i th sub-code from the receiver;
- (d) transmitting the i th sub-code in a next transmission frame to the receiver if the i th sub-code has not been transmitted in all the transmission frames of the PLP;
- (e) increasing the count value i by 1 if the i th sub-code has been transmitted in all the transmission frames of the PLP;
- (f) returning to step (a) if the count value i is greater than the number S of the sub-codes and returning to step (b) if the count value i is less than or equal to the number S of the sub-codes;

wherein all of the sub-codes use quasi- complementary turbo codes.

Allowable Subject Matter

Claims 1-9 are allowed.

The following is an examiner's statement of reasons for allowance:

Furuskar et al., US Patent No. 6,704,898 B1, discloses a method and system called "Combined hybrid automatic retransmission request (ARQ) scheme". Furuskar

does not teach or fairly suggest the sub-codes use quasi- complementary turbo codes recited in claims 1, 5 and 9 as shown in pages 2-3 of the remarks filed on 02/02/2006.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D. Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang